

WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS
PATENT OF THE UNITED STATES IS:

1. A communications method, comprising:

transmitting in a terrestrial analog broadcast channel digital information common to
users within a broadcast coverage area and digital information unique to users within the
broadcast coverage area, including,

partitioning the terrestrial analog broadcast channel into a common information
portion and a unique information portion,

digitally modulating, within the common information portion, information common to
the users within the broadcast coverage area,

digitally modulating, within the unique information portion, information unique to the
users within the broadcast coverage area, and

transmitting the modulated common and unique information within the coverage area.

2. The method of Claim 1, wherein the step of partitioning comprises partitioning the
terrestrial analog broadcast channel in a frequency domain.

3. The method of Claim 1, wherein the step of partitioning comprises partitioning the
terrestrial analog broadcast channel into a TV program information portion and a user-
specific data portion.

4. The method of Claim 1, wherein the step of partitioning comprises partitioning a 6
MHZ terrestrial analog broadcast channel into a common information portion and a unique
information portion.

5. The method of Claim 4, wherein the step of partitioning comprises partitioning the
6 MHZ terrestrial analog broadcast channel into a 2 MHz common information portion and a
4 MHz unique information portion.

6. The method of Claim 1, wherein the steps of digitally modulating the common information and digitally modulating the unique information comprise:
multiplexing the common information with the unique information; and
digitally modulating the multiplexed information within the entire terrestrial analog
5 broadcast channel.

7. The method of Claim 6, wherein the step of digitally modulating the multiplexed information comprises digitally modulating the multiplexed information using 8-VSB digital modulation.

8. The method of Claim 6, wherein the step of transmitting comprises:
up-converting the digitally modulated multiplexed information;
power-amplifying the up-converted information; and
transmitting the power-amplified information within the coverage area.

9. The method of Claim 1, wherein the steps of digitally modulating the common information and digitally modulating the unique information comprise:
digitally modulating the common information and the unique information using
COFDM digital modulation.

10. The method of Claim 9, wherein the step of digitally modulating the common information and the unique information using COFDM digital modulation comprises:
using QPSK-based COFDM digital modulation for the unique information; and
using QAM-based COFDM digital modulation for the common information.

11. The method of Claim 9, wherein the step of transmitting comprises:
up-converting the COFDM digitally modulated information;
power-amplifying the up-converted information; and
transmitting the power-amplified information within the coverage area.

12. The method of 11, wherein the step of transmitting the power-amplified information within the coverage area comprises transmitting the power-amplified information within the coverage area of a COFDM single frequency network.

13. The method of Claim 1, wherein the step of digitally modulating the common information and digitally modulating the unique information comprise:

digitally modulating the common information using 8-VSB digital modulation; and
digitally modulating the unique information using COFDM digital modulation.

14. The method of Claim 13, wherein the step of digitally modulating the unique information using COFDM digital modulation comprises using QPSK-based COFDM digital modulation for the unique information.

15. The method of Claim 13, wherein the step of transmitting comprises:

up-converting the 8-VSB digitally modulated information;

power-amplifying the up-converted 8-VSB modulated information;

transmitting the power-amplified 8-VSB modulated information within the entire coverage area;

up-converting the COFDM digitally modulated information;

power-amplifying the up-converted COFDM modulated information; and

transmitting the power-amplified COFDM modulated information to a plurality of portions of the coverage area.

16. The method of 15, wherein the step of transmitting the power-amplified COFDM modulated information comprises transmitting the power-amplified COFDM modulated information to a plurality of portions of the coverage area comprising a COFDM multi-frequency network.

17. A communications system, comprising:

a transmitter configured to transmit in a terrestrial analog broadcast channel digital information common to users within a broadcast coverage area and digital information unique to users within the broadcast coverage area, including,

a partitioning mechanism configured to partition the terrestrial analog broadcast channel into a common information portion and a unique information portion, and

a digital modulator configured to

modulate, within the common information portion, information common to the users within the broadcast coverage area, and

modulate, within the unique information portion, information unique to the users within the broadcast coverage area, wherein

wherein said transmitter is configured to transmit the modulated common and unique information within the coverage area.

18. The system of Claim 17, wherein:

the partitioning mechanism is configured to partition the terrestrial analog broadcast channel in a frequency domain.

19. The system of Claim 17, wherein:

the partitioning mechanism is configured to partition the terrestrial analog broadcast channel into a TV program information portion and a user-specific data portion.

20. The system of Claim 17, wherein:

the partitioning mechanism is configured to partition a 6 MHz terrestrial analog broadcast channel into a common information portion and a unique information portion.

21. The system of Claim 20, wherein:

the partitioning mechanism is configured to partition the 6 MHz terrestrial analog broadcast channel into a 2 MHz common information portion and a 4 MHz unique information portion.

22. The system of Claim 17, wherein:

the digital modulator includes,

a multiplexer configured to multiplex the common information with the unique information, digitally modulate the multiplexed information within the entire terrestrial analog broadcast channel.

23. The system of Claim 22, wherein:

the digital modulator is configured to digitally modulate the multiplexed information using 8-VSB digital modulation.

24. The system of Claim 22, wherein the transmitter comprises

an up-converter configured to up-convert the digitally modulated multiplexed information; and

an amplifier configured to power-amplify the up-converted information; and

antenna coupled to the amplifier and configured to radiate the power-amplified information within the coverage area.

25. The system of Claim 17, wherein:

the digital modulator is configured to digitally modulate the common information and the unique information using COFDM digital modulation.

26. The system of Claim 25, wherein:

the digital modulator uses QPSK-based COFDM digital modulation for the unique information, and QAM-based COFDM digital modulation for the common information.

27. The system of Claim 25, wherein the transmitter comprises:

an up-converter configured to up-convert the COFDM digitally modulated information;

an amplifier configured to power-amplify the up-converted information; and

an antenna configured to transmit the power-amplified information within the

coverage area.

28. The system of 27, wherein the antenna transmits the power-amplified information within the coverage area of a COFDM single frequency network.

29. The system of Claim 17, wherein the digital modulator modulates the common information using 8-VSB digital modulation and the unique information using COFDM digital modulation.

30. The system of Claim 29, wherein the digital modulator uses QPSK-based COFDM digital modulation for the unique information.

31. The system of Claim 29, wherein the transmitter comprises:

an up-converter configured to up-convert the 8-VSB digitally modulated information and the COFDM digitally modulated information;

an amplifier configured to power-amplify the up-converted 8-VSB modulated information and the up-converted COFDM modulated information; and

an antenna configured to transmit the power-amplified 8-VSB modulated information within the entire coverage area and the power-amplified COFDM modulated information to a plurality of portions of the coverage area.

32. The system of 31, wherein the antenna is configured to transmit the power-amplified COFDM modulated information to a plurality of portions of the coverage area comprising a COFDM multi-frequency network.

33. The system of 17, wherein the partitioning mechanism is implemented as a computer program product.

34. A communications system, comprising:

means for transmitting in a terrestrial analog broadcast channel digital information common to users within a broadcast coverage area and digital information unique to users within the broadcast coverage area, including,

5 means for partitioning the terrestrial analog broadcast channel into a common information portion and a unique information portion,

means for digitally modulating, within the common information portion, information common to the users within the broadcast coverage area,

means for digitally modulating, within the unique information portion, information unique to the users within the broadcast coverage area, and

means for transmitting the modulated common and unique information within the coverage area.

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